

WHAT IS CLAIMED IS:

1. A scrim comprising at least two woven layers of thermoplastic tapes, comprising:

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(a) a first woven layer comprising:

(i) a first set of tapes generally parallel to each other; and

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(ii) a second set of tapes generally parallel to each other, perpendicular to said first set of tapes and woven therewith;

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(b) a second woven layer comprising:

(i) a first set of tapes generally parallel to each other, said first set of tapes being generally parallel to said first set of tapes of said first layer; and

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(ii) a second set of tapes generally parallel to each other, perpendicular to said first set of tapes of said second layer and woven therewith; and

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(c) at least one layer-connecting tape, generally parallel to said first sets of tapes, said tape being interwoven with tapes of said second set of tapes of said first layer and with tapes of said second set of tapes of said second layer so as to attach said first layer to said second layer.

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For comparison of the mechanical strength of the scrim, scrims were woven of the same tape, with the same pick count and average weight per square meter, in a single layer twill weave pattern and in a double insertion pattern as described in US 6,367,513 (Cain). Standard tests of mechanical strength were carried out and the results are set out below:

	Test	Double Scrim	Twill	Double Insertion
10	Tensile Strength-ASTM D751			
	Tensile MD (kg)	130	140	140
	Tensile CD (kg)	123	121	140
15	Trapozoidal-ASTM 04533			
	Tear MD (kg)	60	43	55
	Tear CD (kg)	52	38	55
20	Tongue-ASTM 02261			
	Tear MD (kg)	62	44	58
	Tear CD (kg)	47	41	57
25	Burst-ASTM D751			
	Burst (psi)	595	580	620

MD is machine direction.

CD is cross direction.

Although the invention has been described in terms of various embodiments, it is not intended the invention be limited to these embodiments. Various modifications within the scope of the invention will be apparent to those skilled in the art. The scope of the invention is defined by the claims that follow.

2. A scrim according to claim 1 wherein said layer-connecting tape forms a line of attachment between said first layer and said second layer.
- 5 3. A scrim according to claim 1 wherein said first set of tapes of each of said first and second layers comprises warp tapes and said second set of tapes of each of said first and second layers comprises weft tapes.
- 10 4. A scrim according to claim 1 wherein said first set of tapes of each of said first and second layers comprises weft tapes and said second set of tapes of each of said first and second layers comprises warp tapes.
- 15 5. A scrim according to claim 1 wherein there is a plurality of said layer-connecting tapes, separated from each other, forming a plurality of generally parallel lines of attachment between said first layer and said second layer.
- 20 6. A scrim according to claim 1 further comprising a second layer connecting-tape positioned adjacent to said one layer-connecting tape.
7. A scrim according to claim 1 further comprising:
 - 25 (d) at least one layer-connecting tape generally parallel to said second set of tapes, said tape being interwoven with tapes of said first set of tapes of said first layer and with tapes of said first set of tapes of said second layer.

8. A scrim according to claim 5 wherein said layer-connecting tapes are separated from each other by a number of tapes of said first sets of tapes that is a multiple of four.
- 5 9. A scrim according to claim 1 further comprising a third woven layer, said third woven layer comprising:
 - (i) first set of tapes generally parallel to each other, said first set of tapes being generally parallel to said first set of tapes of said first layer; and
 - (ii) a second set of tapes generally parallel to each other, perpendicular to said first set and woven therewith; and
 - 15 (iii) a layer-connecting tape, generally parallel to said first set of tapes of said third layer, said tape being interwoven with tapes of said second set of tapes of said second layer and with tapes of said second set of tape of said third layer so as to attach said third layer to said second layer.
- 20 10. A scrim according to claim 1 wherein said tapes have a width in the range of 1 to 10 mm.
11. A scrim according to claim 1 wherein said tapes have a 25 thickness in the range of 0.02 to 0.1 mm.
12. A scrim according to claim 1 wherein said tapes have a weight in the range of 500 to 3000 grams per 10,000 meters.
- 30 13. A scrim according to claim 1 wherein said tapes include color pigment.

14. A scrim according to claim 1 wherein said tapes comprise polyolefin resin.
15. A scrim according to claim 14 wherein said tapes comprise 5 high density polyethylene.
16. A scrim according to claim 14 wherein said tapes comprise polypropylene.
- 10 17. A scrim according to claim 1 wherein said tapes include a UV-resistant composition.
18. A scrim according to claim 1 wherein said tapes include a flame-retardant composition.
- 15 19. A fabric comprising a scrim according to claim 1 laminated on one or both sides thereof to a waterproof thermoplastic film.
20. A fabric according to claim 19 wherein said film comprises 20 polyolefin resin.
21. A fabric according to claim 19 wherein said film contains a UV-resistant composition.
- 25 22. A fabric according to claim 19 wherein said film contains a flame-retardant composition.
23. A fabric comprising a scrim according to claim 1 laminated on one or both sides thereof to a layer of slip-resistant material.

24. A fabric comprising a scrim according to claim 1 laminated on at least one side thereof to a metalized film.
25. A fabric comprising a scrim according to claim 1 laminated on one or both sides thereof to a layer of water-absorbent material.
26. A fabric according to claim 25 wherein said water-absorbent material is paper.
27. A fabric according to claim 25 wherein said water-absorbent material comprises non-woven thermoplastic fibres.
28. The use of the scrim of claim 1 as an industrial fabric, construction fabric or landfill cover.
29. The use of the fabric of claim 19 as an industrial fabric, tarpaulin, landfill cover, construction fabric or agricultural fabric.